

APPLICATION  
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TITLE: INTERFACE FOR GENERATING BUSINESS PARTNERS  
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## **INTERFACE FOR GENERATING BUSINESS PARTNERS**

### **CROSS-REFERENCE TO RELATED APPLICATIONS**

[0001] This application claims priority to U.S. Provisional Application Serial No. 60/427,509, filed on November 18, 2002, and entitled, "Web Service Integration".

### **BACKGROUND**

[0002] The following description relates to electronic procurement systems.

[0003] Companies may employ certain individuals to purchase products and/or services for the company. These professional purchasers may need to identify a pool of potential business partners to supply a product or service and then select from that pool.

[0004] Professional purchasers may utilize electronic procurement systems to facilitate purchasing business processes. These systems may enable the company to reduce costs associated with purchasing by increasing supply chain visibility and automating business processes. Electronic procurement systems may also help the purchasers, and the company, build collaborative relationships with suppliers.

**SUMMARY**

[0005] A system may enable users, such as professional purchasers for an enterprise, to create new business partners for the enterprise using information in business partner directories hosted by external service providers. The system may include an electronic procurement system that can perform the following operations: establish communication with a server including an external directory; send a request identifying a user-selected potential business partner in the external directory, receive a response from the external directory; the response including information relating to the selected potential business partner; parse the information in the response; and create a new business partner entry in the internal directory with the information parsed from the response.

[0006] The electronic procurement system and external service providers may use a partner interface protocol to exchange partner information. The request and response may include information in a format compliant with the protocol.

[0007] The new business partner may be created during a business process using the partner information. The new business partner may be approved in another process. The

system may determine whether the user has approval to create a new business partner. If not, an authorized approver may be identified, and a workflow item created for the authorized approver. If the new business partner is ultimately not approved, the new business partner may be deleted from the internal directory and any document created using the new business partner information may be placed on hold.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

[0008] Figure 1 is a block diagram of a system supporting a partner interface.

[0009] Figures 2A-2C show a flowchart describing a business partner creation operation.

[0010] Figure 3 is a screen shot of a display in a sourcing application.

[0011] Figure 4 shows an exemplary OPI outbound interface structure.

[0012] Figure 5 shows a flowchart describing a business partner approval process.

#### **DETAILED DESCRIPTION**

[0013] Figure 1 shows a system 100 that includes an electronic procurement system 105 in an enterprise system

106 and one or more external service providers 107. The system may enable users of the electronic procurement system 105 to create business partners from an external business partner directory 108 hosted by an external service provider 107. The user may access the business partner directory 108 at the external service provider and create a business partner entry (or object) in the electronic procurement system during execution of a business process in the procurement system, e.g., assigning a source of supply (e.g., a vendor) for a product.

**[0014]** The enterprise system 106 may include one or more clients 110 connected to an application server 109 through a network 115, e.g., a LAN (Local Area Network), WAN (Wide Area Network), or Web portal. Users may interact with the application server 109 through the client 110, which may be, for example, a personal computer (PC) or a terminal connected directly to the application server 109.

**[0015]** The electronic procurement system 105 may reside on the application server 109. The electronic procurement system 105 may include a number of services that support interaction with business partners and/or maintenance of business partner information. The services may include a sourcing cockpit 120, a bidding engine 121, and a business partner maintenance service 122. The sourcing cockpit 120

may enable a user to search for and select a company approved vendor to source a particular product. The bidding engine 121 may enable the user to create bid invitations for an auction and host and participate in the auction. The business partner maintenance service 122 may enable the user to create new business partners and update existing business partner information. The business partner maintenance service 122 may include an internal business partner directory 123, which may include a list of company-approved vendors (flagged as "released") and/or vendors pending approval (flagged as "not\_released") and backend contracts for certain products or product categories.

[0016] In an embodiment, the user can create a business partner, e.g., as an object in the internal directory 123, during execution of a business process in any of the services 120-122 provided by the procurement system. For example, Figures 2A-2C is a flowchart describing an exemplary business partner creation operation performed during a sourcing process in the source cockpit service 120.

[0017] Figure 3 shows an exemplary screen display 300 for the sourcing process. The screen display 300 includes a work list 305 including descriptions of products to

source (work items), a work area 310, a pull down menu 315, and an external services link button 320 to call external web services. In an embodiment, the user can select an item from the work list 305 and pull it into the work area 310 (block 205) (Figure 2A). The user may then select a business partner to source the product in the work item (block 210).

**[0018]** The work area 310 includes a field 325 for searching for a supplier from existing business partners in the electronic procurement system. The user may select from these existing business partners, e.g., by pulling up the internal direction 123 in a separate window and entering an existing business partner from the directory in the field 325. The user may also have the opportunity to select a new business partner from the external business partner directory 108. The procurement system 105 may provide one or more external service providers in the pull down menu 315. The user may select an external service provider from the pull down menu 315 and then press the external services link button 320 (block 215).

**[0019]** The enterprise system 106 may communicate with the external service provider 107 using a partner interface protocol. The partner interface may be, for example, the

Open Partner Interface (OPI) developed by SAP AG of Waldorf, Germany.

[0020] The OPI uses standard Internet protocols, e.g., HTTP (Hypertext Transfer Protocol), to exchange information between the application server 109 and the external service providers. Using the OPI, the electronic procurement system 105 may send a request in an OPI-compliant format to an external service provider, and the external service provider may return a response page, which includes results compiled in response to the request, in an OPI-compliant format.

[0021] The OPI includes an outbound interface and an inbound interface. The outbound interface consists of information that is sent to the external service provider 107 by an OPI module 112 at the electronic procurement system 105. This information originates in the electronic procurement system 105, where it is created and maintained. The information may be stored in fields in an internal table. Every field may contain a name-value pair and have a type. The information stored in the table for each external service provider may include the following information: the external service provider URL (Uniform Resource Locator), which should refer to the location of the external partner directory; fields specific to the



external service provider, such as username and password; and a return URL used by the external service provider 107 to return to the electronic procurement system 109.

[0022] Using the information in the internal table, the electronic procurement system 105 constructs a URL call to the external service provider and may redirect a web browser 130 at the client to this URL. In an embodiment, the external service provider may be accessed using the HTTP methods GET or POST, which includes the outbound interface field data. The external service provider 107 then parses and decodes this data and may perform a search of the external business partner directory 108 based on the data.

[0023] The OPI inbound interface consists of information that is sent to the electronic procurement system 105 by the external service provider 107. The inbound interface may be sent back to the electronic procurement system in an OPI-compliant form, e.g., an HTML page or an XML file. For each item selected in the external business partner directory 108 and sent to the electronic procurement system, all required fields must be sent, along with the optional fields. The fields may include the following information: name of the organization; language; address;

telephone number; fax number; and e-mail address. Figure 4 shows exemplary fields for an OPI inbound interface.

[0024] As described above, when the user selects an external business partner directory (block 215), the procurement system constructs the URL call to the external service provider and redirects the user's browser 130 to the external business partner directory. The directory may be opened in a separate window on the client display screen (block 220). The user may then select a new business partner (e.g., vendor) from the directory (block 225). The external service provider constructs a response form (e.g., HTML page) according to the partner interface protocol, which includes the required partner information in the appropriate fields, and sends the response page to the procurement system. The procurement system imports the data from the response page (block 230). The procurement system may then parse and map the imported business partner data to an internal table (block 235) (Figure 2B).

[0025] In an embodiment, when a business partner (e.g., a vendor) is selected from an external business partner directory, the procurement system may determine if the business partner already exists in the internal business partner directory 123 to prevent double entries (block 240). The check may be a string comparison or fuzzy search

of the vendor's name with entries in the internal directory 123. As described above, business partners in the internal business partner directory may be flagged as "released" (approved) or "not\_released". If the vendor does exist in the internal directory, the system may determine if the vendor is approved (block 250) (Figure 2A). If the vendor is approved, the user may continue with the purchasing process using the released vendor guid ("globally unique identifier") in the internal directory (block 255). If the vendor is not approved, the user may continue the purchasing process with the not\_released vendor guid (block 260). Any purchasing documents (e.g., a purchase order) generated in the purchasing process using the not\_released vendor guid may be placed "on hold" in the system (block 265). The purchasing document will remain on hold until approved by an authorized approver, e.g., a manager of the purchasing organization.

**[0026]** If the vendor does not exist (block 240, Figure 2B), the OPI information in the internal table may be used to create a new business partner entry (or object) in the internal business partner directory and assign a "not\_released" vendor guid to the new business partner (block 270). The not\_released status may indicate that the

associated business partner entry is incomplete and/or unapproved.

[0027] The user may or may not have authority to create a business partner. This authority may be based on the user's role. A professional purchaser would probably have authority to create a business partner, whereas other users of the system may not. The procurement system determines whether approval is required (block 275) (Figure 2C), e.g., by checking the role associated with the user. If approval is not required, the new business partner may be flagged as released in the internal business partner directory (block 280), and the user may then continue with the purchasing process with the released vendor guid (block 285). Other purchasers in the relevant purchasing group may also be notified of the new approved vendor, e.g., by email notification (block 287).

[0028] If approval is required, the new business partner may be flagged as a not\_released (block 290). The user may then continue with the purchasing process with the not\_released vendor guid (block 292). Any purchasing documents generated in the purchasing process using the not\_released vendor guid may be placed on hold in the system (block 294).

[0029] The creation of the new, not\_released business partner, may trigger a business partner approval process 500. Figure 5 is a flowchart describing a process 500 for approving a new business partner. The procurement system may determine an approver in response to the creation of the new, not\_released business partner (block 505). The approver may be, e.g., the manager of the purchase organization to which the user belongs. The system may then create a workflow item with the vendor guid in the approver's inbox (block 510). When the approver opens the workflow item, the business partner maintenance service may be launched in a new transaction window. The approver may then approve or reject the new business partner (block 515).

[0030] If the vendor is rejected, the system may delete the business partner from the internal directory, and any other business partner sets in the procurement system, that contain the rejected business partner (520). The procurement system may then send notification emails to the user and any other purchasers that have created purchase orders using the rejected business partner and to the business partner indicating the rejected status (block 525). The concerned procurement documents may remain in

work lists with the "on hold" for further consideration or appeal.

[0031] If the business partner is approved, the system may send notification e-mails to the user and other purchasers that have created purchasing orders with the approved business partner (block 530) and the new business partner may then be assigned to relevant purchasing orders (535).

[0032] In an embodiment, the external business partner directory 105 may include more detailed information about a business partner in the internal directory 123. The user may be able to access this additional information during a business process through the OPI interface.

[0033] A number of embodiments have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the invention. For example, blocks in the flowcharts may be skipped or performed out of order and still produce desirable results. Accordingly, other embodiments are within the scope of the following claims.